

REMARKS

Claims 1, 3, 5-20, 22-44 and 46-51 remain in this application. Claims 22-44, 48 and 49 stand allowed. Claim 6 is indicated as containing allowable subject matter. Applicant respectfully requests re-examination.

The Information Disclosure Statement was objected to with respect to UK Patent No. 2316172 because it was only listed in the specification and not in a separate paper on Form PTO-892, as required by MPEP §609.04(a). Furthermore, several German applications were submitted without a concise explanation of the relevance of the references, or an English language translation.

Applicant hereby submits a supplemental information disclosure statement expressly listing UK Patent No. 2316172 and submitting English language translations of the two German language references previously submitted.

Applicant respectfully requests that the supplemental information disclosure statement be considered by the Patent Office.

The drawings were objected to under 37 CFR §1.83(a) on the grounds that they did not show every feature of the invention as specified in the claims. The Office Action asserts that the flange means of claims 20 and 44 are not shown in the drawings, nor is the memory recited in claims 21 and 45.

Applicant respectfully traverses.

Claims 20 and 44 have been amended so that “flange” of the claims now recites “raised lip” which is described in the specification and shown in the drawings as raised lip 3b in Figure 2 and 3a in Figure 1.

Claims 21 and 45 have been cancelled without prejudice.

Applicant respectfully requests that the objection to the drawings be withdrawn on the grounds that the drawings do show every feature of the invention as specified in the claims.

Claims 1 and 22 were objected to for specific informalities listed in the Office Action. Claims 1 and 22 have been amended to hopefully overcome the informalities pointed out. Applicant requests that this objection be withdrawn.

Claims 23-25 were objected to as being improper dependent claims, for failing to further limit the subject matter of the previous claim. The Office Action specifically pointed out the improper nature of claims 23-25.

Claim 22 has been amended to recite an open ended range of “greater than or equal to .01” so that claims 23-25, which depend therefrom, now further limit claim 22.

Newly added claim 51, which depends from claim 22, recites a closed end range.

Applicant respectfully requests that this objection be withdrawn.

Claim 5 was rejected under 35 U.S.C. §112 as failing to particularly point out distinctive claim subject matter which applicant regards as his invention, on the grounds that claim 5 recites “electronics housing” without any antecedent basis.

Claim 5 which depends from amended claim 1, refers back to an electronics housing recited in claim 1 has “an electronics housing having an upper wall...”

Applicant respectfully requests that this rejection be withdrawn.

Claims 1, 4, 5, 7-12 and 17 were rejected under 35 U.S.C. §103(a) as unpatentable over *Wong* (US 5,721,430). Applicant respectfully traverses.

Claim 1 specifically calls for a “resilient protection comprising a resilient member having one or more apertures through which the radiation means and/or respective detector extend; and the resilient member, the PCB and the components mounted thereon are located in an electronics housing having an upper wall, the upper surface of which defines a wall of the cavity, the resilient member extending from the PCB to the upper wall of the electronics housing such that free volume therewithin is reduced.”

Support for these limitations is found in the specification at page 9, lines 12-37 and in Figure 2, which shows the bung 12 extending from the PC 17 to the upper wall of the electronics housing 7. *Wong* does not show, teach or infer the use of a resilient protection as set forth in the claims.

The Office Action suggests that filter mount 32 in Figure 4 of *Wong* corresponds to the resilient protection of the claimed invention. The function of filter mount 32 as disclosed by *Wong* is for quite a different purpose than the resilient member of claim 1. As can be seen from Figure 4 of *Wong*, his filter mount does not fit closely around the detectors (or source) to provide protection. Walls 40 on which the component rests ensure that this cannot be the case. The sole purpose of the filter mount is to support the different filters required to provide wave length specificity to similar broadband detectors mounted underneath. This is described in column 16, line 40 onwards, in *Wong*.

Wong's filter mount cover does not have any apertures through which radiation means and/or detectors can extend. It does not reduce the volume within the housing by extending from the PCB to the upper wall of the electronics housing. To the contrary, as shown in *Wong's* figures, the filter mount 32 is a thin component which has negligible effect on the free volume. Moreover, *Wong* is silent on the matter of reducing free volume.

A person of ordinary skill would have no motivation to modify the filter mount of *Wong* in any manner to produce this result. Moreover, a skilled person in this art would certainly not consider arranging the detectors (or source) to extend through cover element 32 since not only is this completely contrary to the design disclosed by *Wong*, but it is incompatible with his structure, since filters F1 to F3 already take up this space, and would have to be moved.

Applicant respectfully requests that this rejection be withdrawn.

Claims 2 and 3 were rejected under 35 U.S.C. §103(a) as unpatentable over *Wong* in view of *Diekmann et al.* (US 6,989,549). Applicant respectfully traverses.

The cover element 5 of *Diekmann et al.* is not equivalent to the resilient protection of claim 1. Cover element 5 has a different function from that of the claimed resilient protection. Cover element 5 is disclosed by *Diekmann et al.* as forming part of the optical chamber. Its secondary function is to support various electronic components (including detectors and radiation source) as described in column 4, and shown in Figure 1 of *Diekmann et al.*. *Diekmann et al.* fails to disclose any electronics housing having an upper wall, the upper surface of which defines a wall of a cavity. *Diekmann et al.* fails to disclose a resilient member which extends from the PCB to the upper wall of the electronics housing, such that the free volume within is reduced. *Diekmann et al.* is silent on the matter of free volume in the vicinity of the electronic components.

Diekmann et al. appears to recognize that the gas under test should be retained within a cavity by the use of windows over the aperture in cover 5. (Column 4, line 44)

In doing so, *Diekmann et al.* teaches away from the provision of a resilient protection underneath. A person of ordinary skill in the art, upon viewing *Diekmann et al.*, would not contemplate the introduction of an additional component in the form of an electronics housing to provide a wall of the cavity, since this wall is already provided by *Diekmann et al.*'s cover element 5.

The present inventors have found that the claimed invention provides a significant advantage in that it gives the designer freedom to choose the proper materials for the optical wall, separately for the resilient protection. For example, it becomes possible to use a suitable metal for the electronics housing (which includes the cavity wall) alongside a polymer, such as rubber, for the resilient member, which will offer much improved protection to the electronic components.

Diekmann et al. forces a compromise which will result in poor performance. However, it would not be at all obvious to modify *Diekmann et al.*'s device in such a way as to arrive at the present invention, since this would increase the part count.

Applicant respectfully requests that this rejection be withdrawn.

Claims 13-15 were rejected under 35 U.S.C. §103(a) as unpatentable over *Wong* in view of *Sun et al.* (US 6,469,303). Applicant respectfully traverses.

Applicant reasserts here the arguments set forth above for patentability of the claimed invention over *Wong*.

Applicant respectfully requests that this rejection be withdrawn.

Claim 16 was rejected under 35 U.S.C. §103(a) as unpatentable over *Wong* in view of *Rogalski et al.* ("Infrared Devices and Techniques," published 2002). Applicant respectfully traverses.

Applicant reasserts here the arguments set forth above for patentability of the claimed invention over *Wong*.

Applicant respectfully requests that this rejection be withdrawn.

Claims 18-21, 46 and 47 were rejected under 35 U.S.C. §103(a) as unpatentable over *Wong* in view of *Starta et al.* (Patent Publication 2004/0209507). Applicant respectfully traverses.

Applicant reasserts here the arguments set forth above for patentability of the claimed invention over *Wong*.

Applicant respectfully requests that this rejection be withdrawn.

In light of the above amendment and remarks, applicant respectfully submits that all of the claims remaining in this application are allowable, and respectfully requests their allowance, and the passing of this application to issue.

Respectfully submitted,

SNELL & WILMER L.L.P.



Albin H. Gess
Registration No. 25,726
600 Anton Boulevard, Suite 1400
Costa Mesa, California 92626
Telephone: (714) 427-7020
Facsimile: (714) 427-7799